

Product datasheet for **RC213298**

APE1 (APEX1) (NM_080649) Human Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: APE1 (APEX1) (NM_080649) Human Tagged ORF Clone
Tag: Myc-DDK
Symbol: APE1
Synonyms: APE; APE1; APEN; APEX; APX; HAP1; REF1
Mammalian Cell Selection: Neomycin
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
ORF Nucleotide Sequence: >RC213298 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**CGATCGCC**

ATGCCGAAGCGTGGGAAAAAGGGAGCGGTGGCGGAAGACGGGGATGAGCTCAGGACAGAGCCAGAGGCCA
AGAAGAGTAAGACGGCCGCAAAGAAAAATGACAAAGAGGCAGCAGGAGAGGGCCAGCCCTGTATGAGGA
CCCCCAGATCAGAAAACCTCACCCAGTGGCAAACCTGCCACACTCAAGATCTGCTTTGGAATGTGGAT
GGGCTTCGAGCCTGGATTAAGAAGAAAGGATTAGATTGGGTAAGGAAGAAGCCCCAGATATACTGTGCC
TTCAAGAGACCAATGTTTCAGAGAACAACCTACCAGCTGAACTTCAGGAGCTGCCTGGACTCTCTCATCA
ATACTGGTCAGCTCCTTCGGACAAGGAAGGTACAGTGGCGTGGCCCTGCTTCCCGCCAGTGCCCACTC
AAAGTTTCTTACGGCATAGGCGATGAGGAGCATGATCAGGAAGGCCGGGTGATTGTGGCTGAATTTGACT
CGTTTGTGCTGGTAACAGCATATGTACCTAATGCAGGCCGAGGTCTGGTACGACTGGAGTACCGGCAGCG
CTGGGATGAAGCCTTTCGCAAGTTCCTGAAGGGCCTGGCTTCCGAAAGCCCTTGTGCTGTGTGGAGAC
CTCAATGTGGCACATGAAGAAATTGACCTTCGCAACCCCAAGGGGAACAAAAAGAATGCTGGCTTACCGC
CACAAGAGCGCCAAGGCTTCGGGAATTACTGCAGGCTGTGCCACTGGCTGACAGCTTTAGGCACCTCTA
CCCCAACACACCCATGCCTACACCTTTTGGACTTATATGATGAATGCTCGATCCAAGAATGTTGGTTGG
CGCCTTGATTACTTTTTGTTGTCCACTCTCTGTTACCTGCATTGTGTGACAGCAAGATCCGTTCCAAGG
CCCTCGGCAGTGATCACTGTCTATCACCTATACCTAGCACTG

ACGCGTACGCGGCCGCTCGAGCAGAAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA



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Protein Sequence: >RC213298 protein sequence
Red=Cloning site Green=Tags(s)

MPKRGKKGAVAEDGDELRTPEAKKSKTAAKNDKEAAGEPALYEDPPDQKTSPSGKPATLKICSWNV
 GLRAWIKKKGLDWVKEEAPDILCLQETKCSENKLPALQELPGLSHQYWSAPSDKEGYSGVGLLSRQCPL
 KVSYGIGDEEHDQEGRVI VAEFDSFVLVTAYVFNAGRGLVRLEYRQRWDEAFRFLKGLASRKPLVLCGD
 LNVAHEEIDLRNPKGNKKNAGFTPQERQGF GELLQAVPLADSFRLHYPNTPYAYTFWTYMMNARSKNVGW
 RLDYFLLSHSLLPALCDSKIRSKALGSDHCPITLYLAL

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

Chromatograms: https://cdn.origene.com/chromatograms/mk6402_c07.zip

Restriction Sites: SgfI-MluI

Cloning Scheme:

Cloning sites used for ORF Shuttling:



* The last codon before the Stop codon of the ORF

ACCN: NM_080649

ORF Size: 954 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

Components: The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water).

Reconstitution Method:

1. Centrifuge at 5,000xg for 5min.
2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.
3. Close the tube and incubate for 10 minutes at room temperature.
4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.
5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C.

Note: Plasmids are not sterile. For experiments where strict sterility is required, filtration with 0.22um filter is required.

RefSeq: [NM_080649.3](#)

RefSeq Size: 1507 bp

RefSeq ORF: 957 bp

Locus ID: 328

UniProt ID: [P27695](#)

Cytogenetics: 14q11.2

Domains: Exo_endo_phos

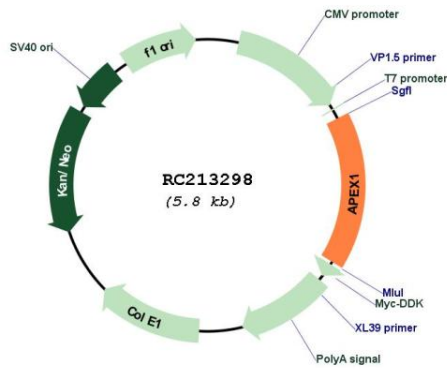
Protein Families: Druggable Genome, Stem cell - Pluripotency, Transcription Factors

Protein Pathways: Base excision repair

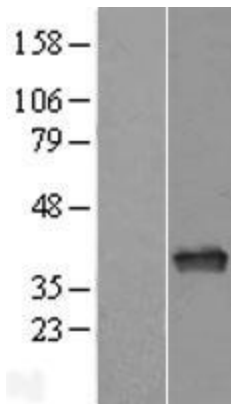
MW: 35.6 kDa

Gene Summary: The APEX gene encodes the major AP endonuclease in human cells. It encodes the APEX endonuclease, a DNA repair enzyme with apurinic/apyrimidinic (AP) activity. Such AP activity sites occur frequently in DNA molecules by spontaneous hydrolysis, by DNA damaging agents or by DNA glycosylases that remove specific abnormal bases. The AP sites are the most frequent pre-mutagenic lesions that can prevent normal DNA replication. Splice variants have been found for this gene; all encode the same protein. Disruptions in the biological functions related to APEX are associated with many various malignancies and neurodegenerative diseases.[provided by RefSeq, Dec 2019]

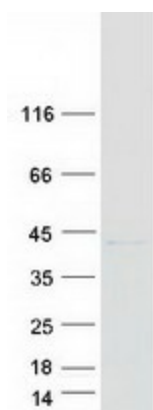
Product images:



Circular map for RC213298



Western blot validation of overexpression lysate (Cat# [LY409119]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC213298 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified APEX1 protein (Cat# [TP313298]). The protein was produced from HEK293T cells transfected with APEX1 cDNA clone (Cat# RC213298) using MegaTran 2.0 (Cat# [TT210002]).